JAPANESE [JP,2000-169328,A]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD EFFECT OF THE INVENTION TECHNICAL PROBLEM MEANS EXAMPLE

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]An epidermis penetration barrier function is strengthened to the influence are influenced by environment, such as suntan, it improves promptly also to epidermis penetration barrier collapse of surface deterioration etc., and this invention relates to the skin cosmetic containing the epidermis penetration barrier reinforcement and this ** which maintain the skin at a state dermatological and healthy in cosmetics.
[0002]
[Description of the Prior Art]All the living bodies including Homo sapiens are influenced by surrounding environment. However, higher animals, such as the mammals, have an organ for making small influence from the environment to each organ required in order to maintain a life as much as possible. It is the skin and one of the most important functions is an epidermis penetration barrier function which prevents an invasion of a substance in the living body, and superfluous evapotranspiration of the moisture from the inside of a living body.
[0003]An epidermis penetration barrier function collapses temporarily by organic solvent, a surface-active agent, ultraviolet rays, etc., and disturbs skin internal environment. If this state continues, there is a danger that a disease germ, a harmful chemical, etc. will invade into the inside of the skin and a living body, and it is necessary to recover an epidermis penetration barrier function promptly. A skin surface dries, a dander covers the surface and the state where the epidermis penetration barrier has

collapsed will be in the state which is not preferred as for a cosmetics top.
[0004]However, although various substances as a substance which improves the epidermis penetration barrier until now had been proposed, there was nothing that is sufficient for it being fully satisfied.
[0005]The purpose of this invention strengthens an epidermis penetration barrier function to the influence are influenced by environment, also improves collapse of the epidermis penetration barrier promptly, and there is in providing an epidermis penetration barrier reinforcement and a skin cosmetic excellent in the effect maintained at the skin healthy also in cosmetics study.
[0006]
[Means for Solving the Problem]As a result of inquiring wholeheartedly in view of the following, this invention persons find out that an extract of SHIRIBUMU Mary Num which is the MARIA thistle group vegetation of Compositae is excellent in an epidermis penetration barrier improvement and an effect which keeps the skin healthy also in cosmetics, and came to complete this invention. That is, this invention is in a skin cosmetic containing an epidermis penetration barrier reinforcement and this ** containing an extract of the Compositae MARIA thistle group vegetation, such as SHIRIBUMU Mary Num.
[0007]
[Embodiment of the Invention]Hereafter, an embodiment of the invention is explained in full detail. As vegetation of the Compositae MARIA thistle group used for this invention, SHIRIBUMU Mary Num (a Silybum Marianum; MARIA thistle.) It is called a blessed thistle or a Scotch thistle. It is prominent, this extract is publicly known, and Silymarin, silibin, Thilly Chris Ching, Thilly Gia Nin, etc. are independent as that active substance, or it exists as a mixture. An extraction method from things made individual, such as the entire plant of the above-mentioned vegetation or a leaf, a stem, and fruits. Methanol, ethanol, other lower alcohol, 1, three butylene glycols, What is necessary is just to extract in such mixtures, such as an organic solvent with middle polarity, such as low-grade polyhydric alcohol, such as propylene glycol, or acetone, benzene, a methylene chloride, ethyl acetate, butyl acetate, chloroform, and ethyl ether, and water may be mixing. And the extract of this SHIRIBUMU Mary Num, especially Silymarin are widely known as an antioxidant, It is applied to the constituent for partial use for optical protection of the skin and/or hair, etc. (JP,8-3015,A), etc. in combination with a bacteria extract as psoriasis and atopic dermatitis therapy pharmaceutical preparation (JP,5-286864,A), or an antioxidant.
[0008]On the basis of the total amount of an epidermis penetration barrier reinforcement, in extraction dry matter conversion, 0.0001 to 2.0 % of the weight is desirable still more preferred, and the loadings of the extract of the Compositae MARIA thistle group vegetation of this invention are 0.001 to 1.0 % of the weight. Even if less than 0.0001% of the weight of loadings may not be enough as the effect made into the purpose of this invention and it blends on the other hand with them exceeding a maximum (2.0 % of the weight), there may be no improvement in an effect corresponding to the increment, and it is not desirable.
[0009]The epidermis penetration barrier reinforcement of this invention can be applied to cosmetics, skin external preparations, and bath salts, and can be made into various things, such as a lotion, a milky lotion, cream, a pack, granulation, and powder, in pharmaceutical form. In this invention, the skin also contains the scalp, when it applies to the scalp, by strengthening the epidermis penetration barrier, by preventing roughness, it is effective in decreasing or preventing ****, and, therefore, hair fostering and the hair-growing effect can be expected.
[0010]Coloring matter, perfume, an antiseptic, a surface-active agent, paints, an anti-oxidant, etc. which are generally used for cosmetics, quasi drugs, drugs, etc. other than the above can be suitably

blended with the epidermis penetration barrier reinforcement of this invention within limits which attain the purpose of this invention.
[0011]
[Example]Hereafter, based on an example and a comparative example, this invention is explained in full detail. This invention is not limited to the following examples.
[0012]The epidermis penetration barrier improvement effect when Examples 1-6 and comparative example 1 this invention was applied to the skin which collapsed the epidermis penetration barrier was investigated with the following test method.
[0013]1. Five hairless-mouse 1 10-weeks old groups were used at the time of the start of laboratory animal test used by this example and a comparative example.
[0014]2. The measurement 2-1. measuring device and condition endermic water loss (it is hereafter written as TEWL) of epidermis penetration barrier intensity were measured using continuation perspiration measuring device hydrograph AMU-100 (made by a cay and S company) as follows. A 1-square centimeter capsule was stuck on the skin, nitrogen gas was introduced in the capsule (a part for 300-ml/), and the water vapor content in the nitrogen gas after collecting from a capsule before sending out to a capsule was measured. From the difference of this value, the moisture content (milligram) which transpires from 1 square centimeter of skins per minute was computed, and it was referred to as TEWL.
[0015]2-2. In a sample and 0.5% of experimental method polyoxyethylene (15) nonylphenyl ether (NP-15; made in Nikko Chemicals) solution (base). The sample which ground SHIRIBUMU Mary Num fruits, was extracted 2 day and night in triple the amount of ethanol, and was blended as the following statement of what carried out reduced pressure drying (it is hereafter written as an extraction dry matter.) was prepared. First, continuation was applied to the regions-of-back skin (about 2.5 cm in diameter) of the hairless mouse which measured TEWL for 0.05 ml of this sample beforehand for four weeks by 5 times of frequency day at 1 time per and one week (prior spreading). then, the 3rd day after the last spreading of prior spreading -- ultraviolet-rays B wavelength (UVB) -- 0.15 J/cm^2 -- it glared once. And after-exposure 3 and TEWL on the 4th were measured, on the basis of TEWL at the time of the start of test, by UVB, the TEWL rate of change whose TEWL is a relative value which shows which was changed was computed, and the average value of a base group and each group was compared. TEWL rate of change = after-exposure 3 or TEWL at the time of TEWL / start of test on the 4th [0016]
TEWL rate of change The 3rd day The 4th day example 1 (0.0001%). 8.18**1.66 9.01 **0.88 example 2 (0.001%) 8.01**0.91 7.91 **1.06 example 3 (0.01%) 6.56**0.83 6.41 **0.70 example 4 (0.1%) 5.29**0.79. 5.49 **0.68 example 5 (1.0%) 4.05**1.08 4.39 **0.91 example 6 (2.0%) 3.87**0.73 4.46 **0.85 comparative example 1 (0%) 11.46**1.61 The inside of 11.21**1.09 parenthesis Concentration of an extraction dry matter (% of the weight), A value is an average value ** standard error.
[0017]From the result of the exam, as compared with the comparative example 1, clearly, collapse of the epidermis penetration barrier by UVB was small, and the epidermis penetration barrier was strengthened with spreading of Examples 1-6.
[0018]The skin lotion of Examples 7-9 and the comparative example 2 following presentation was prepared in accordance with the after-mentioned method of preparation, by making it into a sample, by the following operations, it applied to the skin of ten healthy persons' (a male, 21-55 years old) upper arm inner portion, and the epidermis penetration barrier recovery examination was done by the next

operation.
[0019]After necessary, it applied to 1 time per and one week by 7 times of frequency day, and applied 0.1 ml of each sample at a time by continuation for two months to the examination part (4-cm^2 per sample, 2x2 cm). Next, the skin surface was wiped and processed and it changed into the chapped skin state until it used acetone from the end of the last spreading on the 3rd and TEWL became a part for 0.15 mg/cm^2/. Next, TEWL immediately after processing was measured and the sample was again applied like processing before. And the epidermis penetration barrier recovery factor [=(after 1-acetone treatment TEWL immediately after TEWL/acetone treatment one-week or two weeks after) x100] which shows which epidermis penetration barrier intensity recovered was computed by having measured after one week and two-week progress after processing TEWL, and having **(ed) by TEWL immediately after processing.
[0020]
Presentation of a skin lotion Field Charge ** Part Loadings (% of the weight)
(A ingredient)
Olive oil 10.0 Myristic acid isopropyl 1.0 Polyoxyethylene nonyl Phenyl ether 0.5 Propylene glycol 1.0 Glycerin 2.0 (B ingredient)
Methylparaben 0.1 Ethanol 7.0 purified water It is with 100 about a total amount. Residue to carry out (C ingredient)
Extraction dry matter It indicates to Table 1.[0021]After blending the extraction dry matter of a method-of-preparation C ingredient with B ingredient and dissolving A and B ingredient in homogeneity respectively, A ingredient and B ingredient are scattered by an agitation mix, and, subsequently to a container, it is filled up with them. Contents are used at the time of use, carrying out shaking distribution uniformly.
[0022]The effect exerted on human chapped skin is shown in Table 1.
[0023]
[Table 1]

	表皮透過バリア回復率(%)	
	1週後	2週後
実施例7(抽出乾燥物0.0001重量%)	46±8	82±9
実施例8(抽出乾燥物0.01重量%)	56±7	90±3
実施例9(抽出乾燥物1.0重量%)	69±8	98±2
比較例2(抽出乾燥物0重量%)	16±9	55±4

(値は平均値±標準誤差で示す)

[0024]It turns out that the skin lotion of Examples 8 and 9 promotes recovery of the epidermis penetration barrier clearly from an exam result as compared with the comparative example 2, and epidermis penetration barrier intensity is strengthened. The abnormalities of the skins, such as rubor by the skin lotion of this invention and desiccation, were not accepted.
[0025]Like Examples 10-12 and comparative example 3 Examples 7-9, skin cream was prepared in accordance with the after-mentioned method of preparation by the following presentation, and the epidermis penetration barrier recovery factor was investigated in a similar manner.
[0026]
Presentation Field Charge ** Part Loadings (% of the weight)
(A ingredient)

Dense low 2.0 stearic acid 5.0 Stearyl alcohol 5.0 Reduction lanolin 2.0 squalene 20.0 Sorbitan monostearate 3.0 Polyoxyethylenesorbitan monostearate 3.0 Propylene glycol 5.0 (B ingredient) Methylparaben 0.2 Purified water It is with 100 about a total amount. Residue to carry out (C ingredient)
Extraction dry matter It indicates to Table 2.[0027]Mary Num of the method-of-preparation C ingredient was blended with B ingredient, and mixing and agitating, after carrying out the heating and dissolving of A and the B ingredient to 80 ** respectively, it cooled to 30 ** and it prepared each skin cream.
[0028]The Homo sapiens epidermis penetration barrier recovery factor was investigated, and the result was shown in Table 2.
[0029]
[Table 2]

	表皮透過バリア回復率(%)	
	1週後	2週後
実施例10(抽出乾燥物0.001重量%)	74±6	90±3
実施例11(抽出乾燥物0.01重量%)	85±1	96±2
実施例12(抽出乾燥物0.1重量%)	88±3	98±1
比較例3(抽出乾燥物0重量%)	33±5	77±4

(値は平均値±標準誤差で示す)

[0030]It turns out that the skin cream of Examples 10-12 promotes recovery of the epidermis penetration barrier clearly from an exam result as compared with the comparative example 3, and epidermis penetration barrier intensity is strengthened. The abnormalities of the skins, such as rubor by the skin cream of this invention and desiccation, were not accepted.
[0031]
[Effect of the Invention]This invention can provide above a skin penetration barrier reinforcement and a skin cosmetic excellent in the effect which strengthens epidermis penetration barrier intensity like a statement.

[Translation done.]